

## Proton Pump Inhibitors

### Key Questions and Inclusion Criteria

#### *Update #6*

#### **Key Questions**

1. What is the comparative effectiveness of different PPIs in patients with symptoms of GERD?
2. What is the comparative effectiveness of different proton pump inhibitors in treating peptic ulcer and NSAID-induced ulcer?
3. What is the comparative effectiveness of different proton pump inhibitors in preventing ulcer in patients taking an NSAID?
4. What is the comparative effectiveness of different proton pump inhibitors in eradicating helicobacter pylori infection?
5. What are the comparative effectiveness and harms of different treatment strategies for longer term treatment (more than 8 weeks) in patients with GERD or ulcer?
6. What are the comparative harms of different PPIs in patients being treated for symptoms of gastroesophageal reflux, peptic ulcer, and NSAID-induced ulcer?
7. Are there subgroups of patients based on demographics, other medications, **socio-economic status** or co-morbidities (including patients with nasogastric tubes, or who cannot swallow solid oral medications) for which one medication or preparation is more effective or associated with fewer adverse effects?

#### **Inclusion Criteria**

##### Populations

Adults or children with symptoms of

- gastroesophageal reflux
- peptic ulcer (gastric or duodenal)
- NSAID- induced ulcer

##### Interventions

Included drugs are shown in Table 1.

**Table 1. Included drugs**

Active ingredient	Brand name(s)
Omeprazole	Prilosec <sup>®</sup> Prilosec OTC <sup>®</sup> * Losec <sup>®</sup> (Canada)
Omeprazole/ sodium bicarbonate	Zegerid <sup>®</sup> *
Lansoprazole	Prevacid <sup>®</sup> Prevacid FasTab <sup>®</sup> (Canada)
Pantoprazole	Protonix <sup>®</sup> Pantoloc <sup>®</sup> (Canada)
Rabeprazole	Aciphex <sup>®</sup> Pariet <sup>®</sup> (Canada)
Esomeprazole	Nexium <sup>®</sup>
Dexlansoprazole	Dexilant <sup>™</sup>

\*Not available in Canada

#### Effectiveness outcomes

- Symptoms
- Endoscopic healing
- Eradication rates
- Functional outcomes
- Quality of life
- Recurrence

#### Harms

- Withdrawals
- Withdrawals due to adverse effects
- Specific adverse effects or withdrawals due to specific adverse events

#### Study designs

- For comparative effectiveness of different PPIs, head-to-head randomized controlled trials comparing one PPI to another.
- For comparative harms of different PPIs, head-to-head randomized controlled trials or comparative observational studies.
- For comparative effectiveness and harms of different longer-term treatment strategies, randomized controlled trials with any comparison group.